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ABSTRACT

This paper explores the variety of qualitative methods available, in the context of a larger quantitative-qualitative debate in the field of educational evaluation. Each approach is reviewed in terms of the work of its major proponents. The dominant forms of qualitative evaluation include: (1) ethnography; (2) naturalistic inquiry; (3) generic pragmatic (sociological) inquiry; and (4) connoisseurship/criticism. The last approach differs from the first three in deriving from an artistic conception of the teacher's role in the classroom, as opposed to science-based conceptions stressing the discovery of behavioral laws operating in educational settings. One example of a qualitative study is discussed: a national ethnographic evaluation of a program for dropouts. New developments in methods include phenomenography, the mapping of the qualitatively different ways people experience and think about phenomena, as well as various metaphors for educational research and evaluation derived by analogy with other fields such as law, journalism, and economics. The growth of qualitative approaches is considered as a sign of greater ecumenism of methods and a possible paradigm shift in the qualitative direction. A five-page reference list concludes the document. (LPG)

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Qualitative Approaches to Evaluating Education

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Qualitative educational research is not a monolithic entity. A multitude of qualitative approaches exist. They may be scientifically based or artistically oriented. One approach may appear radically phenomenological, another mildly positivistic in style, tone, and formation. Epistemological and methodological pluralism is a reality in educational research. This article explores this qualitative diversity and, in the process, dispels the myth of a homogeneous enterprise. Some of the most common approaches in the field -- including ethnography, naturalistic inquiry, connoisseurship and criticism, and a few completely new qualitative approaches -- are briefly discussed in this presentation. These approaches are illustrated with the work of their founders or major proponents.

In some of these reviews, a specific approach is discussed; in other portions of this review, the issues that shape and distinguish one approach from another are examined. Arguments are openly aired and hopes for reconciliation are offered. No attempt is made to exhaustively review each approach. (For a more detailed review of each approach see Fetterman in press b.)

Qualitative approaches in the field of educational research represent a wealth of useful, practical alternatives designed to add to the educational researcher's arsenal. Comparing and contrasting these approaches clarifies their relationship to one another and ensures a more appropriate and accurate appraisal of the individual approaches. Critics often confuse one qualitative approach with another. This misperception has caused erroneous or misleading evaluations of a given approach. Typically, the wrong criteria are used to assess the utility of an approach. Criteria to determine the validity of ethnography may be used inappropriately to determine the value of connoisseurship and

criticism, and the criteria for evaluating naturalistic inquiry are often similarly inappropriate[1]. In addition, some researchers have haphazardly mixed elements of different qualitative approaches in a single study without regard for the fact that each approach has its own set of standards, thus jeopardizing the credibility of research findings. Elements of different approaches can combine in a single study if the evaluator is knowledgeable about the various approaches and aware of the consequences of mixing and matching. The validity of one qualitative approach can be enhanced when supplemented by the techniques of another. However, an undisciplined approach to combining qualitative approaches can undermine the most interesting study.

This discussions take place in a larger paradigmatic context: that of a silent scientific revolution in educational research. The change is most visable in educational evaluation. As is the case for many fields of scientific endeavor, educational evaluation is experiencing a change in direction. A critical component of this change is a shift in the paradigms underlying the method and aim of research[2]. A marked shift is taking place in the professional allegiance of evaluators. Increasingly, evaluators are turning away from traditional positivist approaches and toward the acceptance and use of phenomenological or qualitative concepts and techniques in educational evaluation. As with any change in science, the shift is gradual, involving both subjective and objective considerations. Thomas Kuhn, the preeminent historian and philosopher of science, who explored the evolution of scientific revolutions, explained that the acceptance of a new paradigm depends on the phenomena of prior crisis and faith, as well as numerous hard-headed

arguments:

> The man who embraces a new paradigm at an early stage must often do so in defiance of the evidence provided by problem-solving. He must, that is, have faith that the new paradigm will succeed with the many large problems that confront it, knowing only that the older paradigm has failed with a few. A decision of that kind can only be made on faith.
>
> That is one of the reasons why prior crisis proves so important. Scientists who have not experienced it will seldom renounce the hard evidence of problem-solving to follow what may easily prove and will be widely regarded as a will-o'-the-wisp. But crisis alone is not enough. There must also be a basis, though it need be neither rational nor ultimately correct, for faith in the particular candidate chosen....
>
> This is not to suggest that new paradigms triumph ultimately through some mystical aesthetic. On the contrary, very few men desert a tradition for these reasons alone. Often those who do, turn out to have been misled. But if a paradigm is ever to triumph it must gain some first supporters, men who will develop it to the point where hard-headed arguments can be produced and multiplied. And even these arguments, when they come, are not individually decisive. Because scientists are reasonable men, one or another argument will ultimately persuade many of them. But there is no single argument that can or should persuade them all. Rather than a single group conversion, what occurs is an increasing shift in the distribution of professional

allegiances (1962, p.158).

The conversion experience that Kuhn speaks of does not occur overnight. It is not unusual to observe "lifelong resistance particularly from those whose productive careers have committed them to an older tradition of normal science..." (p.151). Donald Campbell (1974) and Lee Cronbach (1975) stand as rare exceptions to this pattern. Prominent proponents of the dominant (positivistic) paradigm, they have both taken firm positions in favor of the use of qualitative methods. In fact, Campbell (1979) has stated that

> where such (qualitative) evaluations are contrary to the quantitative results, the quantitative results should be regarded as suspect until the reasons for the discrepancy are well understood (p. 53).

Educational researchers who continue to display resistance and uncertainty are usually unfamiliar with qualitative approaches. This discussion addresses this problem by presenting a set of standard qualitative approaches that have emerged in the course of this silent scientific revolution.

Revolutionary change occurs in many stages from innovation to acceptance. Typically, only a few innovations reach the acceptance stage. The qualitative classics in this review represent accepted innovations in the evaluation enterprise. Acceptance creates a hospitable environment for future innovations. Novel approaches reach the surface of awareness in this kind of environment -- approaches that under less accepting and flexible circumstances would never see the light of day. New developments, either end up in a suitably obscure place in the archives or reach the light and in turn light the way to

the future. Reaching the acceptance stage generally means adapting an innovation to the mainstream -- to make it more familar to potential adopters. This process can be accomplished by modifying superficial or substantive elements of the paradigm to make it more palatable to the dominant group. During this adaptation period the brainstorming phase comes to a close, and it is time to regroup. Successful change agents are able to identify the salient elements of an innovation from the potential adopters' perspective and to promote or proselytize, focusing on the significant features of the innovation. Similarly, perceived weaknesses that threaten the validity or credibility of the innovation must be addressed if the innovation is to be fully assimilated into the superordinate group. The bottom line, however, in any marketing strategy is the product. Without a finished product, all the advertising or proselytizing in the world is meaningless. In evaluation, reports represent one of the most convincing arguments for qualitative approaches. They can stand the test of time and they can be evaluated on their own terms. They are either convincing or unconvincing, useful or useless. At this stage of an innovation, the idea comes to fruition -- for better or worse.

A fundamental element of the acceptance process is communication. The continuing qualitative-quantitative debate is an important part of this process (see Smith and Heshusius 1986; also see Phillips 1983 and Soltis 1984). One need only scratch the surface of the qualitative-quantitative debate to understand that the terms quantitative and qualitative are in themselves misleading. The terms are commonly accepted handles for both the contrasting paradigms and the methods associated with them. However, each paradigm employs both quantitative and qualitative methods. Certainly, adherents of the dominant

quantitative paradigm are more likely to use experimental and quasi-experimental tools, while qualitative researchers are more likely to employ more descriptive techniques. Focusing on methods, however, is like focusing on the symptoms rather than the cause of a disease. Methods are manifestations of a manifold religion we call science. The fundamental differences between scholarly orders is based on philosophical and epistomological, not methodological, grounds. The contrast in this case revolves around the philosophical positions of positivism and phenomenology. Typically, positivists search for social facts apart from the subjective perceptions of individuals. In contrast, phenomenologically oriented researchers seek to understand human behavior from the "insider's" perspective. Their most significant reality or set of realities is found in the subjective realities of human perception. Essentially, a phenomenologically oriented researcher argues that what people believe to be true is more important than any objective reality; people act on what they believe. Moreover, there are real consequences to their actions. This basic philosophical difference, in conjunction with the social and psychological attributes of the individual researcher, sets the tone for research. These characteristics shape the research endeavor, from the methods used to the types of questions asked. These pedagogical distinctions become somewhat muddled in practice, however, because a continuum runs from reform through orthodox adherence to a paradigm. Moreover, as the research evolves, the researcher may alter his or her vision. The work of such anthropologists as Russel Bernard and Marvin Harris is designed and conducted from a phenomenologically oriented perspective. Both anthropologists, however, attempt to extrapolate from their data

external Durkheimian social facts in a classical positivistic tradition. Similarly, most qualitative researchers attempt to communicate their insights and research findings to positivists -- the dominant culture in educational research -- in the language of their host culture.[3] However, communication between contrasting cultures often produces conflict and debate. In our disputes, we forget that we are one family in pursuit of knowledge. The current dispute at times echoes the tensions that existed in the 16th century between believers in the Copernican theory of the universe and the Ptolemaic established order, which preached that the earth was the center of the galaxy. Copernicus' theory was anathema to the church and a threat to the established way of thinking about the world and ourselves. Skeptical thinkers, including Galileo and Kepler, produced treatises that helped build a case for an alternative way of viewing the solar system.[4] It was a gradual shift in professional allegiances, in practice not that much different from the current shift in allegiance in educational research. No promises can be made for the powers of a new paradigm. All that can be said is that a qualitative paradigm offers a new set of explanations of our educational system. It also enables researchers to ask new questions, answer different kinds of questions, and re-address old ones. In essence, it has worked in a number of areas where the dominant paradigm has failed or is simply inappropriate.

This shift in allegiance is not a simple linear development. Qualitative evaluation has manifested itself in a variety of forms, and entirely new paradigmatic transformations have occurred. Some new approaches are the result of a Hegelian synthesis of paradigms, others -- such as phenomenography -- appear to have emerged more independently. Some of the most effective of these approaches have been selected for

this review to document the development of this gradual shift in professional allegiances among educational researchers. The reasons for this realignment vary. Many individuals have been convinced of the utility of this new paradigm "through some mystical aesthetic." Increasingly, however, individuals seriously dissatisfied with the results of their old tools are making the case for other qualitative approaches in education "to a point where hard headed arguments can be produced and multiplied."

One of the first formal collections dealing with the paradigmatic debate was presented by Cook and Reichardt (1979) in Qualitative and Quantitative Methods in Evaluation Research.[5] This collection presented an excellent introduction to the issues surrounding these contrasting paradigms and discussed some of the strengths and weaknesses of each approach. In addition, the authors have provided a forum for the debate and have established some boundaries on the discussion. They have, however, been criticized for "making explicit many of the misunderstandings that have emerged as a result of writings on alternative paradigms" (Patton 1980:228 . The real problem critics have with their collection may be a result not of scholarly misunderstanding but of the collection's positivist perspectives on a phenomenological endeavor.

The first phenomenologically oriented presentation of this debate was presented by Fetterman (1984) in Ethnography in Educational Evaluation. The contributors were cultural brokers, agents of change attempting to diffuse a paradigm. They demonstrated the utility and centrality of ethnography in educational evaluation. Ethnography in Educational Evaluation presented a continuum of practices within one

qualitatively oriented tradition -- ethnography. It captured what doing ethnographic educational evaluation means from the emic or "insider's" perspective.

Educational Evaluation: Ethnography in Theory, Practice, and Politics (Fetterman and Pitman 1986) was designed to build on the foundation laid by the previous work. It presents the latest developments in the emerging field of ethnographic educational evaluation from an anthropological perspective. This book demonstrated various degrees of assimilation, acculturation, and deacculturation to the dominant context of evaluation. The emphasis on the explicit use of anthropological theory calls for a return to the basic elements of native anthropological culture. The practice and politics chapters demonstrate how to integrate qualitative and quantitative data within a single study. Consequently, some chapters sound more sociological than others, some more positivistic than phenomenological. The aim, however, was to present a continuum of what is happening in practice during this stage of the cultural exchange.

This discussion attempts to paint on the same canvas with much broader strokes -- painting a portrait of paradigmatic change. Instead of presenting a continuum of practices in monochrome, this sketch continues the debate by presenting an insight into the rainbow of colorful issues and approaches within a qualitative dimension. The approaches selected for presentation stand as useful alternatives to the dominant paradigm. Moreover, this collection is presented because, as Kuhn explains, "no single argument...can or should persuade them all."

Structurally, this review is divided into four sections: qualitative classics, new developments, regrouping, and conclusion. The heart of this review lies in the qualitative classics section. Here

the dominant qualitative forms of evaluation are displayed, including ethnography, naturalistic inquiry, generic pragmatic (sociological) qualitative inquiry, and connoisseurship/criticism. Approaches are distinguished from one another, basic issues are addressed, and unresolved disputes are discussed.

A natural tendency of any radical change is the emergence of splinter groups, new factions, and entirely new developments. This section presents a few of these marginal but potentially significant evolutionary changes -- metaphors and phenomenography. The need to regroup demonstrates a natural tendency in any process of change -- to assess where we are and identify the next steps necessary to routinize the movement within the context of mainstream traditions. Finally, the formal conclusion simply provides a broader perspective to this exchange by presenting a mild criticism of each approach.

Qualitative Classics

Although a young science[7] in comparison to the physical sciences, anthropology has the distinction of being one of the oldest qualitative traditions in academia. Anthropology has a multitude of built-in quality controls, with an emphasis on ensuring validity, and thus has become one of the most widely accepted qualitative approaches among positivists. Ethnography, a subskill in anthropology, has become firmly rooted in educational evaluation. In "Ethnography in Educational Research: The Dynamics of Diffusion" (Fetterman 1982) and "Ethnographic Educational Evaluation," (Fetterman in press a), Fetterman discusses the origins of this field, key elements of this approach including techniques and a cultural interpretation, and required adaptations. He focuses on a national ethnographic evaluation of a program for dropouts

that helped legitimize this source of inquiry in evaluation circles.

The study was multilevel and multidimensional in nature. The evaluation examined classrooms, administrative structures, community environments, local and national program affiliates, and governmental agencies. In addition, the roles of federal involvement, evaluation design, and the role of reinforcing world views were examined. This exploration also contributed to the study of cultural transmission, focusing on such mechanisms as the role of program ethos, rites of solidarity, and rites of passage. In addition, it demonstrated the significance of contextualizing data on program, evaluation, and federal levels. An attempt was made to demythologize the qualitative-quantitative dichotomy in research. Ethnography requires a good mixture of qualitative and quantitative data to discern attitudinal changes and to understand typical quantitative criteria such as attendence, turnover, graduation, and placement figures. Moreover, this study demonstrated how integrating qualitative and quantitative data is possible. Finally, it suggested the policy relevance of the qualitative approach. Sensitivity to policy language and governmental timelines and a demonstrated ability to make significant programmatic and policy recommendations has helped ethnographic educational evaluation find fertile ground.

Intracultural diversity is characteristic of an evolutionary development in any discipline. Philosophical and methodological arguments abound within the qualitative community. These arguments help refine the direction of the field. Miles and Huberman argue about methods and canons for analysis required to translate qualitative findings to mainstream educational researchers in a credible fashion.

Guba and Lincoln argue about the theoretical and epistemological issues and, like Wolcott in educational anthropology, play the spoiler role to maintain the integrity of their approach. They represent a conservative force, preventing excessive adaptation and modification. In Naturalistic Inquiry (Lincoln and Guba 1985) and in "Do Inquiry Paradigms Imply Inquiry Methodologies?," (Guba and Lincoln in press), they contrast the scientific, positivistic paradigm with a naturalistic methodology. According to the authors, the alternative paradigm "represents a rival ontological, epistemological, and axiological posture" for adherents of the conventional paradigm. They argue with positions held by Miles and Huberman, Cook and Reichardt, and Patton who attempt an ecumenical blending of methods and/or a shifting of paradigms. Guba and Lincoln suggest that these positions confuse methodology (paradigms) with methods (tools and techniques). They explain that nothing is intrinsically naturalistic or positivistic about methods. The classification of an approach depends on the researchers' intent or purpose and how they use their tools. Moreover, the authors argue that elements of the conventional and the alternative paradigms cannot be mixed without resulting in complete ruin. Guba and Lincoln present the axiomatic differences between positivistic and naturalistic paradigms, the differences in contexts of discovery and verification, and the negotiated or collaborative nature of naturalistic inquiry in comparison to exclusively exogenous or endogenous (locus of inquiry) approaches. They also briefly contrast the linear, rational, and closed methodology of the conventional paradigm with the circular, interactive, hermeneutic, and intuitive character of the naturalistic paradigm. Guba and Lincoln comment on bounding and the trustworthiness of naturalistic inquiry in their work, focusing on internal and external validity,

reliability and objectivity or credibility, transferability, and dependability and confirmability. Guba and Lincoln maintain a strong position concerning the non-miscibility of the methodologies "in any proportion."

Patton presents "a paradigm of choices," in Qualitative Evaluation Methods (Patton 1980) and in "Paradigms and Pragmatism" (Patton 1980). He agrees with Guba and Lincoln that paradigm distinctions are real and useful. However, in marked contrast to their stand, he argues that "one can usefully mix methods" without uniformly adhering to a specific paradigmatic party line. Patton reviews the paradigm debate, exploring assumptions about the connection between paradigms and methods. He briefly presents his early lament about the dominance of the positivistic over the phenomenological paradigm, Reichardt and Cook's (1979) attack on the untenable conceptualization of two mutually exclusive approaches, and Guba and Lincoln's advocacy of naturalistic inquiry over the conventional positivistic paradigm.

He proceeds to clarify the difference between competing and incompatible paradigms, explaining that paradigms do compete for resources, but they are not necessarily incompatible in a single study. Patton also takes a step beyond logical dichotomies erected to distinguish the two paradigms. He presents a revised version of Reichardt and Cook's logical but oversimplified paradigmatic contrast. For Patton, the link between methods and paradigms is one of habit and training, which place blinders on evaluation practice.

Patton recognizes the logic behind Guba and Lincoln's position that the paradigms are incompatible but argues that pragmatism can overcome logical contradictions. Patton advocates the use of "mind shifts back-

and-forth between paradigms within a single evaluation setting" (p. 13). Moreover, he has found that if a commitment to an empirical perspective exists -- basic pragmatism and a sensitivity to client needs -- the other differences can be negotiated.

Patton recognizes his call for flexibility is an ideal fraught with difficulties. A multitude of method and measurement choices exist in any study. Paradigmatic contrasts are useful pedagogical devices to highlight the different values of each approach. But in practice, methods choices are made along a continuum. Obtrusiveness and manipulation may be considered taboo in qualitative approaches, but they do exist. The issue is one of intent and degree.

Patton reflects on recent tendencies in evaluation practice. Significant proponents of the experimental design have endorsed qualitative methods and apparently have less resistance to the phenomenological paradigm. However, quantitative approaches are still dominant. Merging qualitative and quantitative approaches has been problematic, but Patton notes that many efforts have been successful. In essence, Patton views the debate from a pragmatic empirical perspective, viewing what researchers do in practice in comparison to a strictly logical or theoretical perspective. Fundamentally, Patton attempts to lift the blinders of methodological habit from evaluators and to increase the options available to them.

Eisner presents the role of educational connoisseurship and criticism in educational evaluation in, "Educational Connoisseurship and Criticism: Their Form and Functions in Educational Evaluation" (Eisner 1976) and in his article "On the Differences Between Scientific and Artistic Approaches to Qualitative Research" (Eisner 1981). Connoisseurship and criticism together represent an important

alternative in educational research. This option is distinct from other qualitative approaches in being epistemologically rooted in the arts rather than in science[8]. Eisner recommends this alternative to change conventional positivistic forms of evaluation. He rejects the concept that classroom life is controlled by behavioral laws. Instead, he believes evaluation should seek to improve the individual artistry demonstrated by individual teachers in unique classroom settings. Eisner explains that "connoisseurship is the art of appreciation, [and] criticism is the art of disclosure" (p. 141). Connoisseurship requires an awareness and an understanding of the phenomena observed and/or experienced. Educational criticism involves description, interpretation, and evaluation. Description is thick and detailed, capturing the subtleties and the spirit of the moment. Interpretation is informed by "social sciences and the practical wisdom born of experience in schools" (p. 145). Evaluation requires a value judgment about the educational significance of the observation or research finding. Eisner discusses two procedures to determine the validity of this approach: structural corroboration and referential adequacy. Structural corroboration refers to the extent to which pieces of the puzzle fit together and validate each other. It is similar to the process of determining whether the threads of a murder mystery are woven into a recognizable (or credible) pattern. Referential adequacy involves comparing the critical disclosure with the phenomenon. It represents a form of interjudge or intersubjective agreement. Eisner uses art education to illustrate the utility of educational connoisseurship and criticism in his discussion. However, the application of this approach goes beyond any single discipline. The

product of this venture is the reeducation of perception for the teacher, the student, the administrator, and the scholar.

New Developments

Social conditions must be ripe for change. Smith's exploration in alternative research and evaluation methods is rooted in the same social order that gave rise to the interest in qualitative methods in this review. An increased interest in qualitative approaches together with a disillusionment with traditional experimental and quasi-experimental approaches facilitated the development of new qualitative methods - metaphors. Smith reports the findings of an exploratory National Institute of Education project that used other fields as metaphors for educational research and evaluation in, "Mining Metaphors for Methods of Practice" (Smith in press). Smith defines a metaphor as a device to use "one object to create a new perspective on another" (p.4). In essence, the project attempted to view educational research from the perspectives of a number of other fields. In addition, metaphors provided an insight into alternative techniques, new conceptual distinctions, and possible professional roles that might improve educational research and evaluation.

Smith reviews nine metaphors to illustrate the range of methods investigated in the study. They include law, journalism, management consulting, economics, operations research, geography, photography, and music and art. Law as a metaphor offers education such valuable tools as legislative histories, the appeals process, and case histories. Law also provides the concept of levels of confidence and adversary hearings, which can be applied to various evaluation settings.

A few of the concepts guiding the field of journalism include minimum/maximum projections, aborting, and fairness. Journalism also

uses such interviewing strategies as circling, filling, and shuffling, as well as the key interview. Tracking is another invaluable tool for the investigative reporter. The management consultant's role as client-oriented diagnostician provides a model for user-focused evaluators. The most significant contribution identified from the field of economics included cost-feasibility, cost-utility, cost-benefit, and cost-effectiveness analyses. Operations research provided the fewest generalizeable methods, in large part a result of the difficulty of translating the tools of this field into a usable form for practitioners. However, future applications of mathematical modeling, assignment and transportation methods, decision analysis procedures, and operational network displays appear promising.

Concepts unique to geography, but potentially generalizeable to educational research and specifically evaluation, include primitives, satisficing, and least protest. In addition, the use of maps using geocode analysis among other techniques have been useful in analyzing the distribution of student achievement data. Mental mapping is a promising technique to tackle perceptual data.

Art, in the forms of photography, music and visual art, and film criticism, were difficult to adapt to educational research and evaluation, but some results were fruitful. The useful tools adapted from photography include sampling techniques, photo-interviewing, and theory testing. Techniques drawn from ethnomusicology were similar to those used by field workers in social science: preparation for the field, rapport, observation, interview, and time management. Watercolor painting became a model for educational inquiry, focusing on mastery, composing, compelling, and completing concepts. Film criticism tools

included thematic matrix analysis, discontinuities in word and image, appreciative descriptions, lateral tracking, deep focus cinematography, symmetry, and repetition. Smith concludes his discussion with a statement about the yield of this exploration and the conditions for success in this project.

During paradigmatic transitions, many alternatives emerge. One of the newest developments is phenomenography. Marton presents this new qualitative approach in, "Phenomenography: Exploring Different Conceptions of Reality" (Marton in press). This approach emerges from the qualitative roots of the 1970s, but stands between the alternative approaches and the mainstream paradigm. Phenomenography is used to study learning and thinking, mapping the qualitatively different ways in which people experience or think about various phenomena, such as numbers, reading, and thinking. Marton presents examples of results using this approach and discusses the methodological principles underlying phenomenography. Phenomenography looks at "the relations between human beings and the world around them," focusing on the perception itself. For Marton, perception falls between human beings and the world around them. Marton recognizes that other established traditions have dealt with this domain. However, he is calling for "a specialization in its own right" (p7). Categories of description are viewed as the outcome of phenomenographic research. Marton discusses the concept of replicability for this new qualitative approach, separating discovery from identified categories requiring some form of intersubjective agreement. He also discusses how phenomenography evolved from reflections of mainstream research, measuring and improving language proficiency to its present and varied directions. Marton refines our understanding of phenomenography by carefully comparing and

contrasting it with other qualitative approaches to educational research -- specifically phenomenology and ethnography. Marton concludes with a discussion of some of the methodological facets of phenomenography, focusing on interviews; educational applications of phenomenography, including documenting the effects and noneffects of educational treatments; and some implications for an epistemological policy that questions the existing scientific base for teacher education.

Regrouping

Firestone and Dawson's "Approaches to Qualitative Data Analysis: Intuitive, Procedural, and Intersubjective," (Firestone and Dawson in press) marks a transition in the acceptance of the qualitative paradigm. They believe qualitative methods have "become an accepted tool in educational research." They recognize, however, that their continued acceptance and full promise require methodological refinement. They explore intuitive, procedural, and intersubjective approaches that aim at disciplining "qualitative inquiry without sacrificing subjective understanding." Like each contributor in this review, they are cultural brokers. They speak the language of evaluation to convince evaluators and other educational researchers that perceived weaknesses in the "new" paradigm have an easy remedy. Simultaneously, they are adept code switchers, speaking the languages of fieldworker and evaluator in the same breath. Their aim is to encourage qualitative researchers to refine their own approach while working in the field of evaluation.

Many stages mark the evolutionary development of a discipline (Fetterman 1986). A classic stage involves pulling back and regrouping to establish standards commensurate with the mainstream rules and regulations of scientific inquiry. An explicit representative

of this developmental stage is presented in, "Drawing Valid Meaning from Qualitative Data: Toward a Shared Craft," (Miles and Huberman 1984a). (Also see Qualitative Data Analysis, Miles and Huberman 1984 b.) Miles and Huberman argue for an "ecumenical blend of epistemologies and procedures." However, in general, they leave the epistemological debate to others. Instead of focusing on the paradigmatic level, they emphasize the practical, methodological level of abstraction.

Miles and Huberman are concerned that there are "few agreed on canons for analysis of qualitative data." They outline a form of data analysis and specify methods that provide assurance and credibility to the analytical endeavor. The terrain of the quantitative researcher's field is well marked, while the qualitative field is "more perilous." For the authors, the "problem is that there is an insufficient corpus of reliable, valid, or even minimally agreed-on working analysis procedures for qualitative data" (p.2). They provide a suggested audit trail from data collection through analysis and interpretation. Qualitative data analysis, for Miles and Huberman, consists of three components: data reduction, data display, and conclusion-drawing and verification. They recommend the following methods of improving the data reduction process: drawing explicit conceptual frameworks, bounding inquiry (with specific research questions), specifying the multitude of sampling decisions, and preplanning instrumentation. A variety of interim data reduction methods are suggested to prevent "excessive prefocusing and bounding," including summary sheets, coding schemes, memos, analysis meetings, and interim summaries.

Miles and Huberman also note that various forms of data display improve data analysis, including descriptive and explanatory matrices.

Conclusion drawing tactics include counting, noting patterns or themes, seeing plausibility, clustering, making metaphors, splitting variables, subsuming particulars into the general, factoring, noting relations between variables, finding intervening variables, building a logical chain of evidence, and making conceptual/theoretical coherence. Conclusion verification tactics include checking for representativeness, checking for research effects, triangulation, weighting the evidence, making contrasts/comparisons, checking the meaning of outliers, using extreme cases, ruling out spurious relations, replicating a finding, checking out rival explanations, looking for negative evidence, and getting feedback from informants. Miles and Huberman conclude with a call for greater sharing of what qualitative researchers do when they analyze their data.

An examination of the strengths and weaknesses of each approach is presented below to place the silent scientific revolution in paradigmatic perspective. The second half of this discussion consists of a mild criticism of the qualitative classics, new developments, and the regrouping effort.

Criticism: Qualitative Classics

Fetterman presents a case study of a national ethnographic evaluation. The study contributed to both basic and policy research. It also contributed to quantitative as well as qualitatively oriented literature by studying the experimental design in the evaluation, as well as the program for dropouts itself. The study's national exposure accounted for as much of its impact on the mainstream research community as did the implementation of specific qualitative techniques and procedures. This national study helped

to demonstrate the value of qualitative approaches to federal sponsors and policy decision makers, as well as to campus colleagues. However, its strong focus on one national study is also its weakness. A comparison of many qualitative studies of this scale might have improved the salience of the arguments (see Firestone and Herriot 1984). In addition, a more detailed discussion of the methodology of this study, which was specifically tailored to the fiscal and timely demands of evaluation research, could profitably have been compared with the long-term site visit approach of the Rural Schools ethnographic evaluation. In this case, given the benefit of hindsight, it appears that gambling on the value of an in-depth look at one significant study and its impact in a number of areas has already paid off -- despite the study's necessarily cursory portrayal of the ethnographic field.

Guba and Lincoln are two names that are synonymous with naturalistic inquiry. Their work serves an important purpose -- to remind qualitative researchers of basic epistemological roots. Their contrast of naturalistic inquiry with positivism is useful and important. Researchers who use methods without understanding the cosmology of the approach will misuse them. (See Fetterman 1984; McCutcheon 1981). Their discussions about credibility, transferability, and dependability and confirmability are an attempt to bridge a paradigmatic gap in understanding. Their strong stance on the non-miscibility of methodologies places them at the extreme end of the qualitative family. In espousing this position, the authors ignore some real world constraints that shape research. In addition, this type of position serves to shut scholars out rather than accommodating them. However, their position becomes a special

demarcation point. As an orthodox sect helps to maintain the purity of their religion, the authors help define a continua of qualitative investigators and to maintain the quality of all qualitative endeavors.

Patton is one of the most pragmatic qualitative researchers in the field of qualitative inquiry. His generic qualitative approach is sociological in tone. (An anthropological approach is typically guided by the culture concept.) His eclectic approach appeals to the conventional evaluator. He is able to do the job in a manner that is useful to his clients. He stands in direct opposition to Guba and Lincoln concerning the mixture of qualitative and quantitative methods and paradigms in the same study. Patton might have strengthed his argument in this area by emphasizing the importance of training in both areas before attempting mind shifts from one approach to another. An inadequate understanding of the method and methodology of both paradigms could result in disaster if the individual is not properly trained for this type of mental dexterity. In addition, the Achilles' heel of an overly pragmatic approach is the absence of theory to guide practice (see Fetterman 1986; Simon 1986; and Pitman and Dobbert 1986). The proof of the pudding, however, is in practice, and Patton clearly has been successful in addressing the pertinent issues in a timely fashion and in a manner useful to his clients. He is a major figure in qualitative evaluation. Although recognizing that resistance to qualitative forms of inquiry have not disappeared, his work has increased the level of acceptance of qualitative inquiry in evaluation.

Eisner adds another dimension to the qualitative world. His work in connoisseurship and criticism is based in art, not in science.

He offers a refreshing and colorful splash of paint to the canvas. The intricate detail of his descriptive portraits resembles the thick description of ethnography. They differ only in that ethnography is focused by the culture concept and attempts to be nonjudgmental. Connoisseurship and criticism are instead carefully crafted judgments of life in the classroom. Such intense appreciation is often revealing, opening up a whole new world to the casual observer and to the participants themselves. The drawbacks of this approach are perceptual. Because connoisseurship and criticism are not based in science, those scientists who are the powerbrokers of most educational inquiry have difficulty finding the results credible. A more subtle problem is that the approach is conducive to ethnocentric assessments and is easily shaped by socioeconomically biased articulate perceptions. This problem is compounded when conducting cross-cultural research. Moreover, the hidden danger of this approach is that the scholar who is immersed in the process of finding a metaphor to represent inner reality is tempted to create it, producing poetry and fiction, not science. This danger is real for all scientists, but it is particularly serious for an artist who walks down scientific corridors. However, this last concern is anticipated in some measure by the use of such procedures as structural corroboration and referential adequacy [10]. These criticisms are not meant to detract from the value of the approach, they simply serve as guides to those perusing the gallery of their thoughts.

Criticism: New Developments

Smith has found a comfortable home for the metaphor. Like Eisner, he values the crystalized and highly focused value of metaphors. Unlike Eisner, Smith uses the metaphor to see the problem,

whereas Eisner explores the problem in order to see the metaphor that lies within. Smith's study is a plethora of valuable applications and potential applications. He has opened the eyes and ears of many evaluators. In some cases, he simply provides useful labels with which to describe what evaluators are already doing implicitly -- a useful contribution in its own right. In addition to testing the usefulness of various fields as metaphors for educational research and evaluation, he has offered many more concepts to analyze our work. Concepts such as levels of confidence and minimum/maximum projections and various techniques borrowed from ethnomusicology are clearly invaluable. Smith has successfully sensitized evaluators to a kaleidoscope of ideas with which to view evaluation problems. One caveat is that individuals untrained in these areas may apply the concepts superficially and inappropriately. However, the thrust of Smith's vision is to let in more light for our evaluative quest for knowledge.

Marton, like Smith, explores new frontiers. Phenomenography may herald a new era -- or it may be absorbed in mainstream traditions. It is always difficult to predict the direction a new field will take. In any case, a contribution has already been made. Marton forces us to recognize this form of cognitive research as a definable entity in its own right. Phenomenography has existed in various forms as an adjunct to a major discipline. This qualitative approach to the study of learning and thinking may have tremendous implications for the underpinnings of teacher education. A difficulty for the advocate of any new discipline or approach is distinguishing it from other approaches. In his attempts to define this new

approach, Marton may have overemphasized the differences and minimized the large number of similarities that phenomenography shares with phenomenology, ethnography, and sociological field work. This new approach may appear narrow in scope, but it is still in its infancy; only time will determine if this new qualitative approach is fruitful.

Criticism: Regrouping

Firestone and Dawson are cultural brokers, trying to demonstrate the usefulness of this new approach on the one hand and attempting to refine it on the other. The strength of their presentation is that they focus on critical issues of concern to mainstream evaluators reviewing qualitative approaches. Their weakness lies in the narrowness of their concerns. A multitude of issues warrant our attention, including the validity and reliability of qualitative approaches. Fundamentally, however, the question is always one of tradeoffs. Does one pick depth or breath? Given the careful aim they took at the most significant concerns, the authors appear to be on target in their choice of depth versus breath.

Miles and Huberman are two outstanding qualitative researchers who have brought methods of analysis to our attention and emphasized the importance of various validity and reliability issues in qualitative research. They provide a virtual litany of techniques to ensure the quality of data collection and analysis. Moreover, they, like Firestone and Dawson, are cultural brokers -- in this case, explicitly attempting to bring qualitative research into the mainstream camp. They have been criticized for attempting to impose positivistic standards on a fundamentally phenomenological enterprise. Some concern also exists that they may be structuring a qualitative enterprise to death, in spite of caveats to the

contrary. (See Marshall 1984). A more subtle problem involves the use of mainstream terms and concepts to shape and communicate an alternative approach -- something is lost in the translation. This complaint mirrors Third World scholars' discussions when they are forced to read about their own culture in English with American concepts instead of native terms and concepts. These concerns are real, but they should not overshadow the significance of these two scholars' accomplishments. No single approach successfully communicates the value of qualitative evaluation, and no single manner exists to improve it. Their approach is an important contribution to this process.

Conclusion: The Quiet Storm

The silent scientific revolution in educational evaluation is like a quiet storm. There are no ominous clouds hovering overhead, but the power of the storm threatens to tear through the intellectual landscape like a tornado. This paradigmatic change is both personal and professional in nature. This article views the storm as it travels through the rough terrain of qualitative research with a focus on evaluation. Mapping the progress of the storm may help travellers to navigate through the clouds to the clearer skies ahead.

This discussion has many purposes. First, this brief review was designed to dispel the notion that qualitative research is a monolithic entity: qualitative approaches are varied and manifold. Second, it illustrates the variation in standards. Each qualitative approach has its own standards and evaluation criteria. This article discusses major approaches to facilitate appropriate applications and evaluations of each qualitative approach. A recognition of the intra-cultural

diversity within qualitative evaluation will bring about a more effective criticism of this art and science. Third, this collection of approaches serves as a portable guide to major qualitative approaches and arguments in evaluation. (Also see Fetterman in press b for a more comprehensive guide.) Evaluators -- including student evaluators -- exposed to a full spectrum of qualitative approaches will be more fully equipped to tackle both basic and policy research agendas than will those who view the world in terms of one qualitative dimension.

By openly discussing strengths and weaknesses in the field, this review is also designed to help those researchers who are shifting their allegiance to a phenomenologically oriented paradigm. This discussion may provide some perspective for their own personal struggle with loyalty and logic, faith and reason.

Footnotes

1. See Jacobs (1986) for further discussion of this problem.

2. See Lincoln (1986) for discussion of this paradigmatic shift in various disciplines.

3. Cross-disciplinary communication is also fostered by speaking to positivists in native anthropological language when appropriate; code switching can also be an effective method of communication (see Fetterman 1986).

4. We would still believe in Ptolemaic cycles and epicycles as explanations of the planetary system if not for the persistence of these thinkers and the reasonableness of the intellectual community in the long run.

5. Many collections address the general issue of phenomenology and logical positivism. In addition, journals -- most noticeably Anthropology and Education Quarterly -- have addressed the debate as it relates to anthropological and educational research. Cook and Reichardt's (1979) work represents one of the first books to tackle this paradigmatic debate directly within the context of evaluation research.

6. The qualitative classics section represents the most prominent standard qualitative approaches used in educational evaluation. The section is not designed to be an exhaustive list of all qualitative approaches or their major proponents. For example, see illuminative evaluation (Parlett and Hamilton 1976) for another example of a qualitative approach. Also see Hammersley and Atkinson (1983); Goetz and LeCompte (1984); and Wolcott (1975, 1984), for additional

information about ethnography in educational evaluation. Kyle and McCutcheon (1984) and Booth (1984) provide insightful illustrations of collaborative evaluation.

7. Ethnography as a formal science is young. However, it has roots trace back to the travelogs of Heraclitus.

8. See Eisner, E., "On the Differences between Scientific and Artistic Approaches to Qualitative Research." Educational Researcher, 1981, pp. 5-9.

9. This section of the review can be compared with chapter five of my forthcoming book The Silent Scientific Revolution: Qualitative Approaches to Evaluating Education (in press b) to determine how academic information can be translated into policy concerns. A critical comparison also illustrates what type of information can be translated and what type of information is omitted.

10. For a detailed discussion of this topic, see Eisner, E.W. The Educational Imagination: On the Design and Evaluation of School Programs. New York: Publishing Co., 1985, pp. 216-252.

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